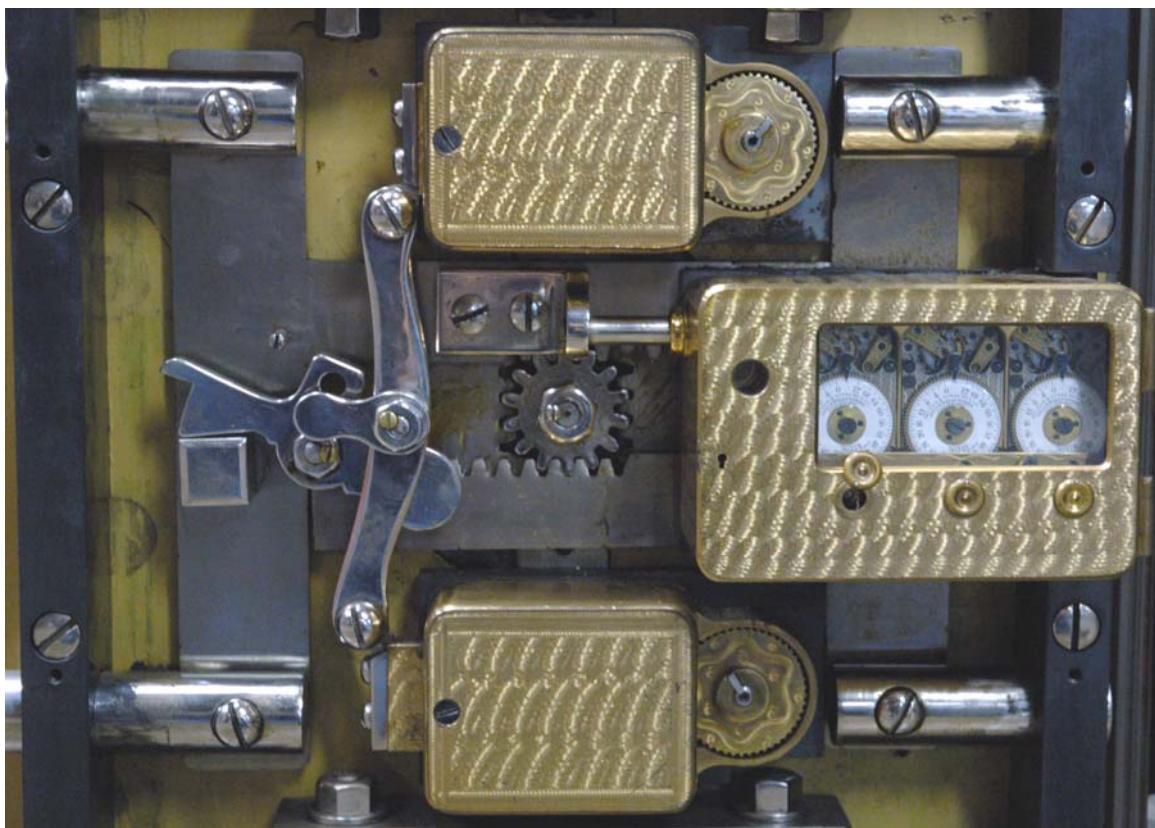


# **TMI Guide to Timelock Movements**



## **TMI Guide to Timelock Movements**

### **Contact Information:**

TMI, Corp.  
127 SE 29<sup>th</sup> St.  
Topeka KS 66605-1123  
785-232-8705  
FAX: 785-232-2603  
[www.tmilock.com](http://www.tmilock.com)

### **Warranty:**

*Unless otherwise specified, all new product is covered by a one-year, repair or replacement guarantee. Consequential damages that may arise through the use or improper application of our products is not covered under this warranty. Our warranty is a agreement with the original purchaser and does not extend to assigns, heirs or secondary owners. Timelock Movement Repair, is guaranteed for a period not to exceed ninety-days (90 days). This guarantee is to the original purchaser of the service and or repair and covers the reevaluation and any labor required to affect a functional repair. If parts are required, a separate invoice will be provided with the reevaluation and charged for accordingly. Except as noted herein, there is no other warranty expressed or implied. Acts of God, war and nature are not covered by any guarantee offered by TMI, Corp.*

### **Safe Packaging of Timelock Product:**

Essential to cost constraint, is the safe shipping practices used by our customers to ship timelock product to us for repair and or service. Please note and follow the outlined suggestions:

- Always place your timelock movements in a sealed, plastic bag
- Always protect the balance wheel from being crushed
- Always use adequate packing material that supports the movement, constrains the movement and prevents the movement from being crushed.
- Always keep packing peanuts, foam, paper, cloth and other forms of debris from surrounding an unprotected movement.
- When possible, ship each movement in a separate box within a master carton.
- Insure the movement for replacement value. Minimum insurance should be \$300.00 per movement.

RMA numbers are not required for repair services. Proper paperwork is essential. Enclose proper documentation, including purchase orders, requested types of service, contact information with phone numbers and extensions. When possible, note the problem you encountered with the timelock product.

**Repair Policy:** Our general repair policy is to contact the customer if the repair and parts will exceed 50% of the replacement value of the movement. If the cost is at or below 50%, we will automatically affect a functional repair.

## ***TMI Guide to Timelock Movements***

### **Introduction:**

Timelock technology has roots that span more than 150 years. This manual will introduce you to the relevant side of the technology, showing replacement movements that can be used to replace, retrofit and upgrade timelocks that were made over the last 100 years. The most important part of timelock technology is the service side; the technician and what he or she knows and more importantly, observes at the job site.

TMI, Corp., is a manufacturer of timelocks and related products. Over the course of the last 25 years, we have strived to innovate, by bringing solutions to the field that answer the needs of the technician and the end user. These solutions include replacement movements that retrofit the majority of manufacturers product made over the past century. Additionally, we offer repair, restoration, parts tools and supplies to keep existing timelocks operational. There are always timelock issues that require more than an off-the-shelf solution. This is when the ability of the in-field technician and TMI staff working together are able to solve most field issues.

This manual is divided into two basic sections; one that addresses the actual replacement movements and a second section that will address currently available, replacement parts. The first section will include pictures of the actual replacement movement and the “family” of movements that unit can retrofit. Section two will deal with readily available replacement parts, articulated by an exploded view drawing.

Though we are a manufacturer, we maintain good working relationships with our competitors. Sargent and Greenleaf and Rench of Argentina have considerable numbers of timelock units in the field. Our goal at TMI has always been to support **ALL** products of current manufacture with repair, parts and replacements when available. The bottom line for us at TMI is service to the market place irrespective of make or type.

### **Swiss Timelock Movement Evolution/History in Brief:**

Switzerland entered our market place as the dominant supplier in 1947. The “swissification” of the timelock industry started when the chairman of Yale Banklock fell in love with the automatic wind type steering wheel “watch/clock” he had in his Oldsmobile. Referred to as a “Watch/Clock” owed to the fact that the unit had unbeatable accuracy and was unusually reliable. The unit was built on the principals of an automatic watch. The components of this watch however were ten-times larger than a regular size watch. Enamored with the precision and execution of the steering wheel Watch/Clock, Yale Banklock went to Switzerland to meet the actual manufacturer; Saint Blaise to discuss the possibility of them making Yale timelock movements. Seth-Thomas, an American manufacturer of exceptional repute was the manufacturer of movements for Yale and Diebold, assuming that role after the untimely demise of The E. Howard Watch Company of Boston. Mosler was still using residual stock from the now demised Illinois Watch Company and beginning to switch their production to The Waltham Watch Company. S&G was still making their own movements at this juncture. Saint Blaise undertook the challenge from Yale and “cloned” the Seth-Thomas movement, right down to the polished head screws that Seth-Thomas was known for. Production from Saint Blaise was minimal until 1946, when Yale Banklock switched over all production to their now, trusted hands.

## **TMI Guide to Timelock Movements**

Shortly after Saint Blaise began producing for Yale, S&G commissioned them to make the first dual escapement DAT (Delayed-Action Timelock). This commission was based on a need from Diebold and the fact that S&G did not have a “reliable” time-delay. The original S&G time-delay was considered unreliable and unacceptable by Diebold. S&G took their lead from Yale and pursued a new avenue of Swiss reliability with Saint Blaise. Within a year after S&G introduced the new and improved design Saint Blaise came up with for a DAT, Diebold went to Saint Blaise and made them their new full-line manufacturer of timelock movements, again “cloning” the original Diebold movement as executed by Seth-Thomas. By 1950, Saint Blaise was entrenched in the timelock business in America, producing for Yale and Diebold. S&G was still making their own movements, pushing the once popular “H” style, from which all modern square bottom movements took their design.

The early 1950’s saw a new evolution in timelocking technology, when the new owner of S&G, Harry Miller discontinued making timelocks. Unlike other manufacturers of the time, Harry did not join his counterparts in manufacturing and engage Saint Blaise. Harry Miller was unique in his belief that any vendor he selected would have to possess loyalty to S&G only and NOT manufacture for anyone else. Harry was not a “me-too” manufacturer. S&G in fact did not have a timelock until the 1960’s era, when Le Febure, Corp. asked S&G to design a timelock for their use. Between Harry Miller and Jim Taylor a three movement timelock became a reality for Le Febure. The movement type was based on the Yale screw mounting pattern and the old S&G “H” style square bottom. The gear train and primary components were identical to Yale and Diebold, with the movement being the latest style and type 120 hour. S&G developed the housing, but did not make it exclusive to Le Febure. S&G marketed the same timelock in Canada and Europe but not in the United States. During this era, Yale Banklock division was sold to Diebold, ending the timelock wars and opening up the market, especially for S&G.

The next major evolution in timelock technology came about in 1969 when Harry Miller went to Switzerland to visit Sonceboz. Sonceboz was known for their well-head meters and timing devices for natural gas. Harry got an agreement from them to manufacture the first S&G Swiss made timelock movement. This relationship continued through 1975. The relationship was cancelled when Nick Gartner, president of La Gard, Inc. started to make timelocks that utilized the Sonceboz 624 series movement, the identical unit used by S&G. Then president of S&G, J. Clayton Miller undertook to find a new vendor in Switzerland to produce an exclusive movement for S&G. Clay sought out both quality and price point, settling on dealing with Relhor, SA. Relhor was known for making parking meter movements for the German market. They were a small, struggling company and a perfect fit for S&G. With the help of Relhor engineers, S&G developed to first reset movement and the “Snap-Action Reset” movement.

Relhor survived through 1988 as the manufacturer of record for S&G movements. Relhor opted at that time to make similar movements for other vendors, which caused S&G to again revert back to Sonceboz. Sonceboz was given the task of “cloning” screw for screw the Relhor movement, which by this time was singularly, the most popular movement in the United States. Nick Gartner had commissioned Saint Blaise now referred to as “STB” to make a “throw-away” type movement with a life expectancy of five-years. The 114M was born. During this same time, STB was sold and bought by a group of investors, mainly La Gard foreign distributors and Nick Gartner, President of La Gard. The timelock wars raged on until Nick discovered that the profit margin was small and technical support would actually require one, full-time employee to implement. In 1992 we saw the introduction of the first stand alone electronic movement series. Model 124, 134W and model 114E were born.

## **TMI Guide to Timelock Movements**

The hope was that these movements would simplify the need for technical support and increase the bottom-line profits accordingly. Early versions did not simplify life; instead they made it more difficult. First, the learning curve to use them was larger than expected. Secondly, the movements were environmentally susceptible to extreme cold. Third, battery life was not as anticipated. By 1994 La Gard was considering selling off their timelock division. Ultimately, the division was sold to STB. Just before selling off the timelock division, Nick Gartner also divested himself of all STB stock. Most of the other investors followed suit and STB was again a private company, owned by Ciposa Microtechniques, SA with shares of stock sold to the managing director. 1996 was the start of a new beginning for TMI, Corp., when we became the sole distributor for STB product in North America. By 1999, TMI had reinvented the timelock, taking the best principals of La Gard, S&G and Yale into consideration; we developed our model 16000 three-movement housing and model 2400 two-movement housing. Our first private label movement was the original Yale movement, that we changed by making it 144 hour and adding a reset feature. Shortly after that we had custom manufactured the 127R, replacement for Diebold, the 126R, replacement for Mosler and the 104K replacement for Kumahira. TMI than became the manufacturer of record for Le Febure and later for Diebold. The untimely demise of Mosler was met with our replacement 126R movement to fill the gap. Electronic movements offered by TMI have gone through no less than five-evolutions. In 2008, we now offer a time only model 114E and a weekly programmable 134W. Both have become reliable and stable, utilizing a TI platform with quartz accuracy. From these models we are able to make custom units that are both reset, non-reset and 999 hour for the diamond industry. The TMI model 117 was born in 2007, bringing a low cost, disposable alternative to the market. All DAT's (time-delay) mechanical movements were discontinued in favor of the lower cost, readily available electronic counterparts, found as a standard function in most electronic combination locks.

Innovation to timelocking technology has been our cornerstone since day one and continues to be what we strive for each day. Future offerings include our new low cost three-movement housing and the addition of a magnified front cover for the 16000 series timelock. We have modified the typical Rench movement, allowing it to fit correctly in our housings and as a direct replacement for existing Rench housings. Repair services for movements dating back to 1860 are accomplished by our repair division. Parts, educational material, tools and supplies as they relate to timelock round out our overall offering, making us the only company of our kind in the world, totally devoted to timelock technology.

### **Nomenclature:**

**Timelock:** Comprised of two essential components; timelock movements and the actual lockable housing. A timelock may contain 2, 3 or 4 movements, all utilized for redundancy. The redundant feature of a timelock represents the fact that only one (1) movement is required to unlock the actual housing. The additional movements are there for back-up purposes.

**Timelock Movement:** A mechanical or electronic timing device, wholly contained and functional as a means for unlocking timelock housing. At this juncture, both electronic and mechanical timelock movements contain a functional gear train, mainspring and timing standard. The timing standard for all electronic movements is quartz and for mechanical is a platform escapement.

## ***TMI Guide to Timelock Movements***

### **Nomenclature Continued:**

**Winding Key:** A broached to size apparatus the correctly embraces the winding arbor of a timelock movement, facilitating the installation of motive force, arming a movement or programming a model 134W weekly programmable movement.

**Bushings:** AKA: pivot Bearings; are usually made of brass or bronze and act as a bearing for gear train pivots. Bushings support the pivot and supply via their oil cup, lubrication to each pivot so equipped.

**Jewels:** Identical in function to bushings, these provide superior lubricity and long life. Jewels are synthetic garnet and sapphire in any movement made over the last 50+ years. Earlier versions used genuine sapphire and ruby with an occasional industrial grade diamond variation used in the escapement portion of 90+ year old movements.

**Gear Train:** Usually comprised of five-gears. The function of the gear train is the economic transference of mainspring motive force, which allows a timelock movement to run for long periods of time. Gears are numbered, starting at #1, which is usually the great wheel/winding arbor assembly, down to the smallest gear, # 5 which interacts with the escape wheel of an escapement.

**Indicator:** AKA: Pointer Assembly; a part of every Mechanical timelock movement ever made. This appendage is located in a convenient location and indicates the time wound into a timelock movement.

**Mainspring:** a banded piece of steel or steel alloy that is hardened to spring temper of approximately RC: 48. This banded material is contained in a mainspring barrel (housing). Motive force to the gear train is supplied by further coiling this material (winding the movement).

**Display Wheel:** Inscribed with the maximum locking hours available. Used as an absolute indicator when preparing a timelock movement for locking. The display wheel contains an "unlocking pin" which engages the timelock trigger protrusions. At "0" hour, the unlocking pins will all have worked against and moved the trigger to the fully unlocked position.

**L.C.D. Display:** AKA: Liquid Crystal Display; by dynamic scattering of the LCD material, numbers and words are formed on the screen of an electronic timelock movement. This is the absolute indicator of locking hours and or days for an electronic timelock movement.

**Winding Arbor:** An upright, square appendage to which a winding key is applied for purposes of installing locking hours or programming an electronic movement.

**Automatic Locker:** The original type of timelock housing made by Yale, Diebold and Mosler were automatic. The term "Automatic" refers to the design of the timelock housing. When all movements are wound in an automatic housing, the timelock will lock when the lock bolts of the vault door or chest are extended.

## **TMI Guide to Timelock Movements**

**Manual Locker:** A timelock designed to require a secondary function to affect a locked condition. After all movements are wound, an actuating plunger or lever is pressed. Until pressed or "actuated" the timelock will not lock if the bolt work of the vault door or chest is extended. Examples are TMI, Rensch La Gard, STB and Le Febure.

**Trigger Assembly:** A component of a timelock that is made from steel, stainless steel, brass or anodized aluminum that unitizes or coordinates all movements in a timelock. During timelocked periods, the trigger keeps the timelock in the locked state. At "0" hour the trigger has been moved over to the unlocked position by the unlocking pins on the display wheel and will allow the timelock to open. (See Display Wheel)

**Actuator:** A lever or plunger mechanism that forces the "Snubber" into the locked state. By compressing or pushing the actuator, the snubber is caused to move into the locked position. The trigger moves over under spring pressure to block and retain the actuator in the locked state. The unlocking pins on the display wheel will ultimately at "0" hour move the trigger in a direction requisite for the actuator to return to its' original, neutral state (unlocked). The snubber drops by gravity, opening the aperture in the timelock housing. The created opening in the housing allows horizontal bolt travel from linkage or bolt work to retract into the timelock housing, affecting an open state.

**Snubber:** A sliding weight of brass, steel or Zamak that acts as a blockage in a timelock housing. When the snubber is in the locked position, the "Snubber – Bar" is unable to reenter the timelock housing. If the Snubber Bar can not enter the housing, the bolt work or connecting linkage is caused to remain in the locked state until time runs down to "0" hour. At "0" hour, the Snubber drops and the Snubber-Bar can once again access the timelock housing.

**Snubber-Bar:** A usually round steel rod of 1/4, 5/16, 3/8 or 1/2 inch cold-rolled steel. In function, the Snubber-Bar is attached to either connecting linkage between two combination locks or directly to bolt work. When the Snubber is full raised in timelock housing, the Snubber-Bar is unable to retract within the timelock. This action prevents the secured safe, chest or vault from unlocking.

**Timelock Functionality:** Regardless of brand or type, most timelocks function in an identical manner. In practice, the two, three or four movements in the housing are wound to pre-determined locking hours. If the unit is a "Manual Locker" depress the actuator. This will cause the "Trigger" to move to the locked position. "Automatic Lockers" will allow the trigger to move to the locked position as soon as time is wound on the last movement in the housing. The trigger can move to the locked position only because the unlocking pins on each timelock movement are moved out of the way by winding in locking hours. As the "Trigger" moves so does the "Snubber." The "Snubber" is forced against the "Snubber-Bar" which is inside the timelock body (unlocked state). The "Snubber" is caused to compress under spring pressure until either the combination locks are caused to lock or the bolt work is caused to move into the fully locked position. Once the "Snubber-Bar" channel in the timelock is clear of the obstruction, the "Snubber" fully extends under spring pressure to close the aperture in the timelock housing, preventing the horizontal travel of the "Snubber-Bar" back into the timelock housing. The timelock is now said to be in the locked state.

### **Timelock Functionality cont.:**

Upon expiration of the preset locking hours, the trigger is caused to gradually move to the unlocked condition or neutral state. This action will release the actuator (in the manual locker) or gradually allow the snubber to drop in automatic locker type housing. When the actuator is full released, the snubber will drop by gravity to the fully unlocked state. Dialing the correct combination (s) or retraction of the bolt work will allow the snubber bar to again fill the snubber bar channel in the timelock housing. This is considered the fully unlocked state of a timelock.

Timelocks are simple devices in almost every respect. They are so simple in fact that they are often ignored during routine service. Regular inspection is mandatory. Mounting hardware needs to be secure. Snubber-Bar alignment needs to be accurate and allow a clearance of at least 3/32" between the Snubber-Bar and Snubber in the locked state. Trigger wear needs to be evaluated, with corrective action instituted at the first sign of unusual wear. Timelock movements need to be serviced every year to eighteen months if they are mechanical. Battery changes on electronic movements must be done at least annually. Never allow your customer to lock their timelock with less than two (2) movements in a functional condition. Most service personnel are not timelock movement technicians. This is one area of bank security work that can not be learned by performing the task, without proper education and experience BEFORE you do your first real life contract.

### **Series 104 Gear Train:**

Manufacturers throughout the history of timelocks have always opted to name and assign part numbers to their products. Timelock movements are no exception. The 104 series of movements represents singularly, the largest group of movements in use today. Developed by STB, the 104 gear train became the standard used in the original Yale and Diebold movement. In later years, Le Febure adopted a square-bottom movement that utilized the same gear train as Yale and Diebold. TMI, Corp. has adopted the original 104 series gear train for use in our Mosler replacement movement, model 126R, our Diebold 127R, Le Febure 104L and our flagship movement, the original Yale, which we refer to as the 104Y. Reset clutches have been added to update the original gear train. The original integrity of the 104 series gear train remains intact and still sets the standard for our industry.



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### TMI Model 104Y

Built from the original design used to manufacture the Yale 120 hour movement, our enhanced version offers:

- Reset or non-reset
- Magnified lens escapement cover
- 144 hour maximum locking hours
- Retrofits most Yale applications requiring a "pocketed" movement
- 17-4 PH Unbreakable mainspring
- Left Hand standard – Right Hand on special order
- Adjustable indicator for precise "zeroing" the timelock housing

This is our flagship movement and can replace movements made by S&G, Le Febure, La Gard, Rench, Relhor, Sonceboz and others. The design platform is based on a twenty-five year standard of manufacture. With proper care, this movement can easily render fifty-years of service.



Model 104Y will easily replace the "family" of Yale products shown in addition to the other movements noted above. This group represents more than 100 years of timelock product.



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Since the early 1990's, the 114E electronic timelock movement set the new standards for our industry. The 114E opened a new era of possibility, marrying the reliability of a spring driven gear train with the accuracy of a quartz time base. There have been at least five evolutions of this series. Early versions had several unforeseen issues that caused all of us to go back to the drawing board and design the proverbial "better mouse trap." 2008 saw the introduction of the current model, which offers:

### **TMI Model 114E**



- A Texas Instruments processor
- Quartz Time Base
- Reset and non-reset (available on special order only)
- 15 minutes to 199 hours standard or 15 minutes to 999 hour (special order only)
- Bright LCD screen
- Fail Safe design (if there is inadequate power the movement will fail to arm.)
- Retrofits S&G, La Gard, ILCO and others

### **TMI Model 134W**



Our model 134 W is referred to as "Weekly Programmable." Unlocking times can be programmed into this unit for each day of the week. The weekly program of unlocking times then becomes redundant and repeats until the unit is reprogrammed. Limitations are that you can only program in one unlocking time per day and that you must have at least one open time programmed. The safety of this feature however prevents an expensive lock-out. Other features include:

- Texas Instruments processor
- Quartz time base
- Bright LCD screen
- Daylight Savings Time feature
- Extra Close feature
- Skip-A-Day feature
- Programming with the turn of a winding key
- Retrofits S&G, La Gard, ILCO and others
- Fail Safe (without adequate power available the unit will fail to arm)

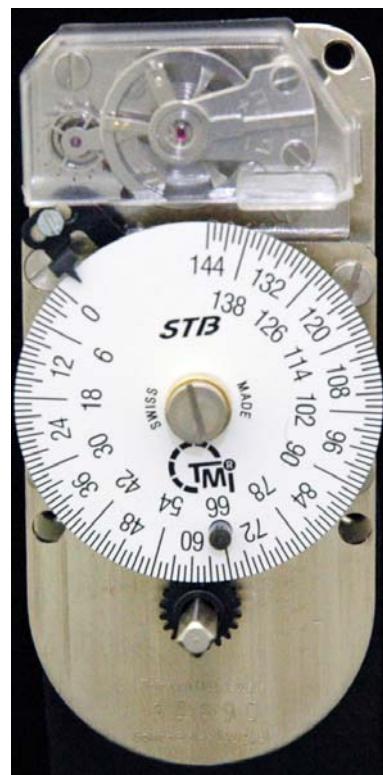
## TMI Guide to Timelock Movements

### TMI Model 104K

**Kumahira Replacement:** Built with the famous 104 gear train, our model 104K offers:

- 144 hour reset or non-reset (on special order only)
- Indicator on the left side of the display wheel
- Retrofits all Kumahira series and models exactly
- 17-4PH Unbreakable mainspring
- Adjustable indicator for absolute zeroing of the timelock case

Our Kumahira replacement movement is based on the famous 104 series gear train and twenty-five year manufacturing platform. This movement is an improvement over the original in both quality and daily performance.



**Servicing Notes for Kumahira Timelocks:** There are several considerations to keep in mind whenever you encounter a Kumahira installation.

- The trigger has adjustable slide blocks that are engaged by the unlocking pin of the movement. These aid in “zeroing” the case
- Original Yale and TMI model 104Y movements can be used in emergency situations as replacement movements in Kumahira timelocks.
- Kumahira timelocks can be converted to use 114E and 134W electronic movements with a TMI factory adjustment of the trigger mechanism. Without this adjustment, the trigger will interfere with the battery housing and cause a lock-out.
- **Always check the slide blocks on the trigger. All three must be tight and adjusted to match the movements installed in the housing.**



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### TMI Model 126R



**Mosler Replacement Movement:** Built using the 104 series gear train, this movement will replace most Mosler movements in use today. The screw mounting pattern is a precise match to Mosler. The drawback is that these movements wind counter-clockwise and not like the original Mosler movements that wound clock-wise. There was no practical manner open to us in the design of the movement to accommodate clock-wise winding. Other features of this movement include:

- Reset and non-reset (on special order only)
- 168 hour possible locking hours
- 17-4PH unbreakable mainspring
- Adjustable indicator

**Point of History:** Mosler used S&G and Yale timelock movements until 1900. In 1900, Mosler cloned their version of "Bankers Dustproof" block assembly, right down to using the same movement manufacturer; The Illinois Watch Company. By the late 1940's Waltham 16size movement replaced Illinois in the block assembly, followed in 1959 by Recta Watch Company 18 size clone type pocket watch movements.



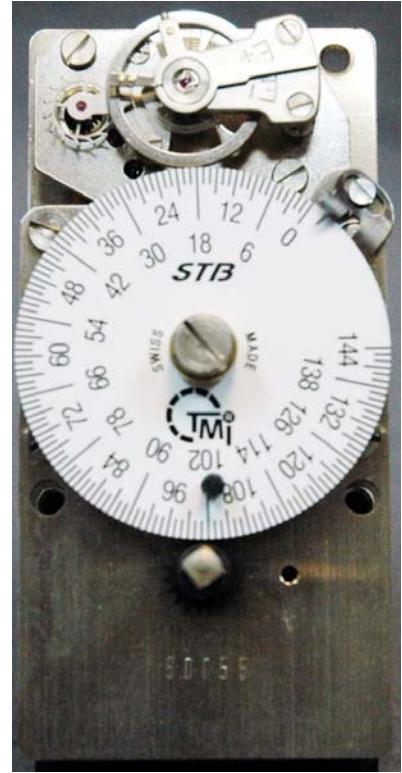
## TMI Guide to Timelock Movements

### TMI Model 104L

**Le Febure Replacement Movement:** Replicating the original LeFebure movement was our initial goal. This once popular movement saw sales in the United States of well over 4000 per year at one point in time. We made a few changes to enhance the function. Some of these changes include:

- Increased locking hours to 144
- Non-Reset or reset (special order only)
- Adjustable indicator for precise zeroing of the timelock case
- Retrofits Le Febure, S&G, ILCO and others

Le Febure started as an under-counter and bond box maker many years before they entered the vault door manufacturing side. They were not innovative for the most part, save that of their pneumatic systems that are now “cloned” by other industry leaders. When Le Febure needed a timelock, they did not invent one, they simply commissioned S&G to develop a suitable product for their use. The current day Le Febure replacement movement therefore mimics the once popular “H” style S&G and has become the most popular execution of a movement, second only to the round-bottom style of Yale design.



### TMI Model 117

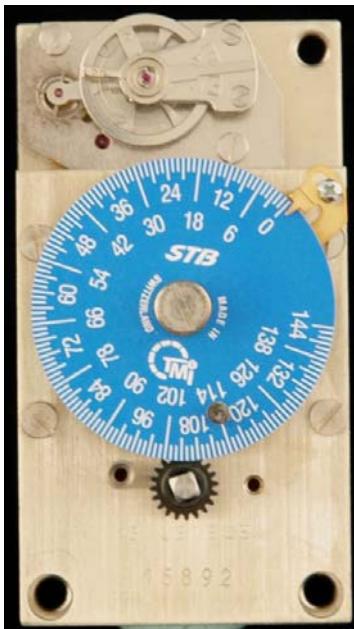


**Generic Replacement Movement:** Utilizing time proven platform gear trains developed for both the 104 and 114M series movements, the 117 is a hybrid, Swiss movement of modest cost and reasonable life expectancy. This movement is designed to be easy to retrofit and affordable to dispose of when it's usable life is over. This series carries a two-year replacement warranty. Average life is predicted to be 5-7 years of normal use. Features include:

- Reset and non-reset (available on special order)
- Jeweled, free-sprung escapement
- Replaces 104Y, 104L, S&G, ILCO, Relhor and most movements that use the original Yale screw mounting pattern.
- Adjustable indicator for precise zeroing of the timelock housing
- Fits the S&G Mini-Timelock without adjustment. This is the only mechanical movement TMI offers that will fit the custom-sized S&G Mini.

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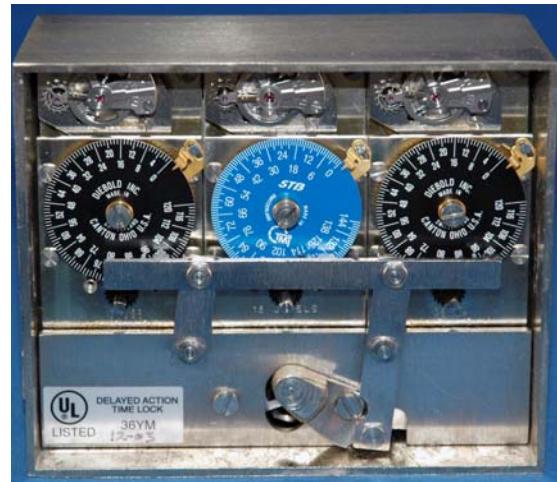
### TMI Model 127R



**Diebold Replacement Movement:** Built using the 104 series gear train for uncompromised longevity, the model 127R replaces movements made over the last 100 years. Features include:

- Replaces most 72, 96, 120 and 168 hour Diebold movements
- Reset and non-reset (non-reset on special order only)
- 17-4 PH Unbreakable mainspring
- Left-Hand standard – Right-Hand on special order
- Adjustable indicator for precise zeroing of the timelock housing
- 144 hour maximum locking time

**\*\*Custom Movement  
Mounting Screws  
Available\*\***



**Point of History:** Diebold did everything in their power to avoid using Yale timelock product in the 1800's and 1900's. They did however use S&G in all early chests and vaults of the late 1800's. Though Diebold considered Yale a competitor, this did not stop them from using Yale's movement maker, "The E. Howard Watch Company of Boston." As Yale progressed in timelock technology, so did

Diebold, adopting Seth Thomas shortly after Yale signed the original and first contract with Seth Thomas. The competition existed owed largely to Yale's "Road-Men" of the era, which serviced timelocks throughout the world and made it a point to replace all "competitors" movements with Yale whenever possible. The final laugh was had by Diebold, when they purchased and took apart the once famous Yale Banklock division, burying most of it in Canada.

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### Rench Model 165

**Rench Replacement Movement:** One of the more interesting movements on the market today is the Rench model 165R. This movement embodies a Swiss made, jeweled escapement and a custom made gear train of moderate quality. The original black face version has been imported from Argentina for years by many U.S. vault door manufacturers. We had the movement modified to use a more standard black on white display, black indicator and easier to utilize mounting screw holes. This movement makes an ideal, low-cost replacement movement for most S&G, Le Febure, Relhor, TMI, ILCO and others. This model carries a two-year warranty and is truly affordable. We estimate the usable life to be 5-7 years of normal usage, after which time, the movement is disposed of and replaced with a new unit. Features include:

- Reset and non-reset (on special order)
- 160 hour maximum locking hours
- Retrofits most commonly used movements



## TMI Guide to Timelock Movements

TMI Model 16000 Timelock Housing



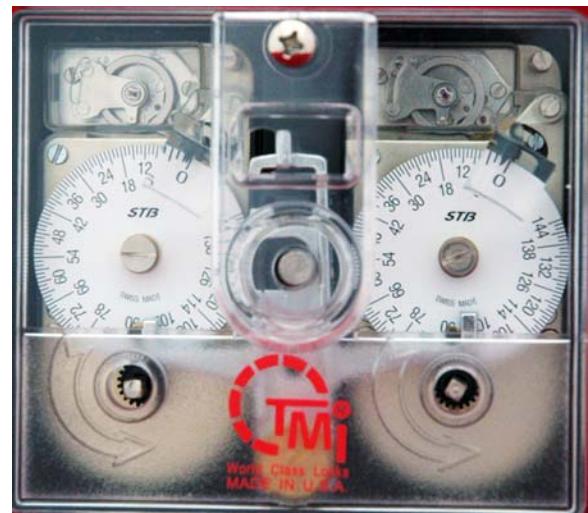
TMI Model 2400 Timelock Housing



TMI Model 160-104Y-3 Timelock



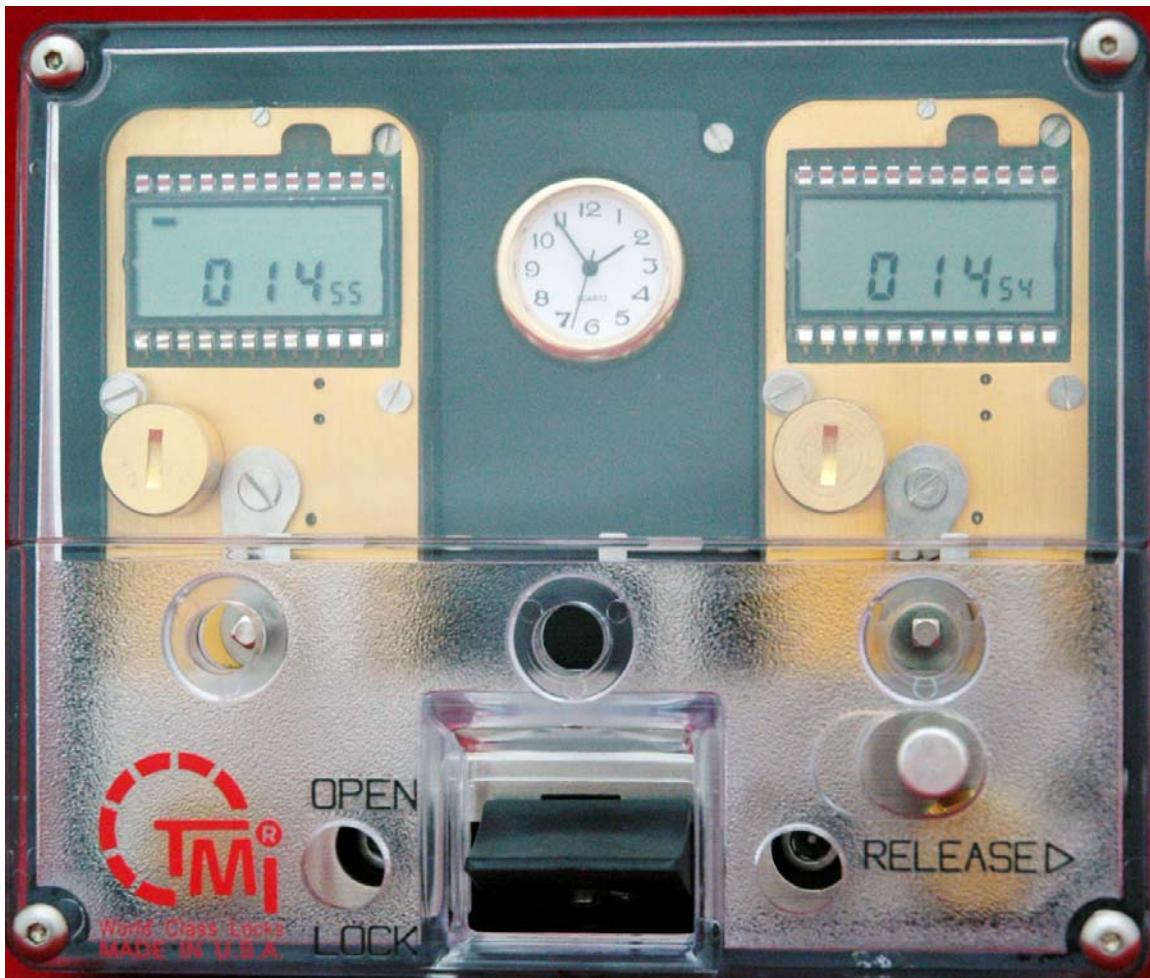
TMI Model 24-117 Timelock



**TMI Series 16000 and 2400 Timelocks and Housings:** Durable, understated elegance in design and execution. The 16000 series housing is made from aluminum alloy, the lightest and strongest execution in the industry. The 2400 series housing is made from Zamak 3, the standard zinc casting alloy in our industry. Both offer superior performance and ease of installation, utilizing industry standard screw mounting patterns. We spared no expense so as not to compromise quality. When performance and quality is essential to security, ask your distributor or OEM for TMI branded product.

## **TMI Guide to Timelock Movements**

### **TMI Model 160-114E-2 Special**

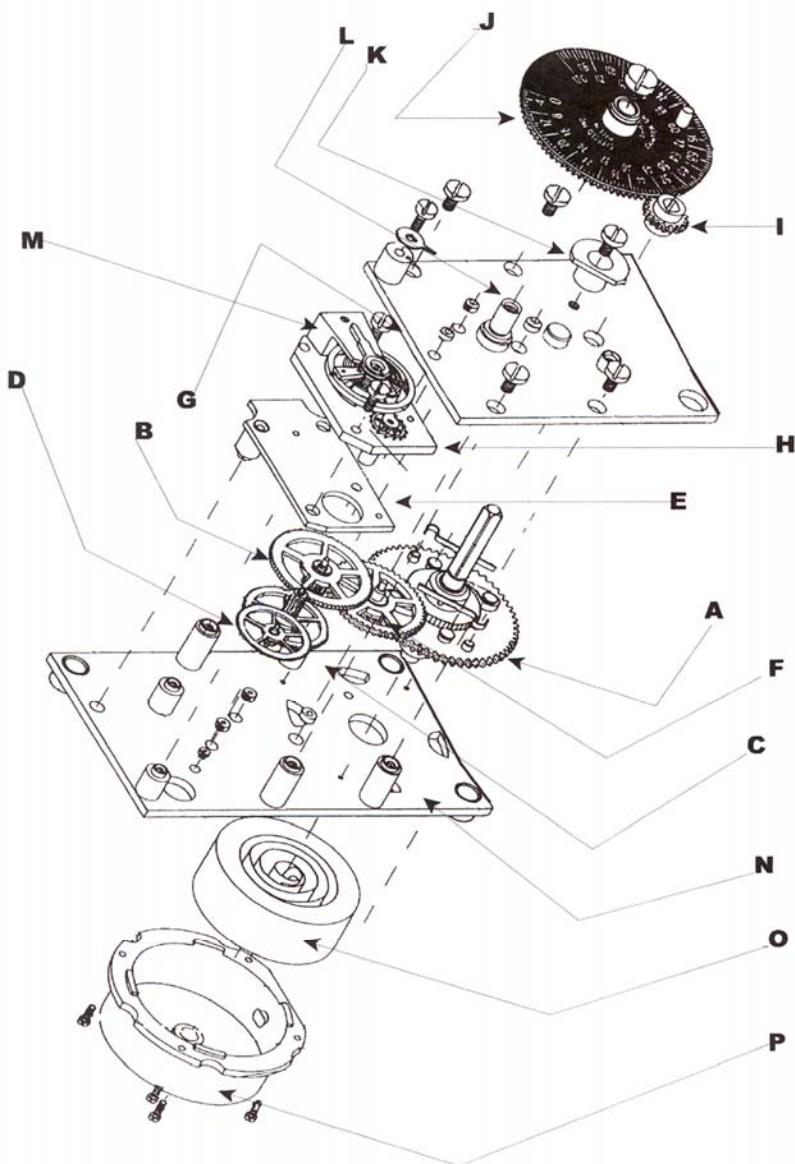


#### **Features:**

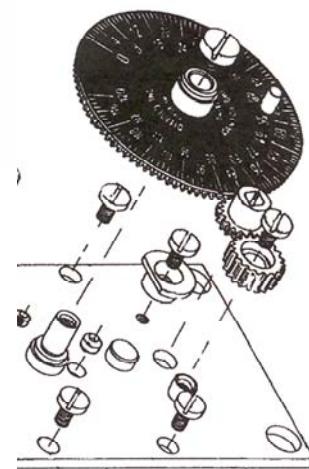
- Custom, gold plated 114E movements (special order only)
- Custom center filler block with quartz clock in a convenient viewing location
- 16000 series housing made from aluminum alloy for extra strength and economy shipping
- 304 Stainless Steel laser-cut trigger
- Tool-Steel actuator slide plate for wear-free performance
- Solid brass snubber encased in polycarbonate 1/3 glass reinforced
- C360 brass bearing screws
- Stainless steel fixation throughout
- Custom manufactured in the USA

## TMI Guide to Timelock Movements

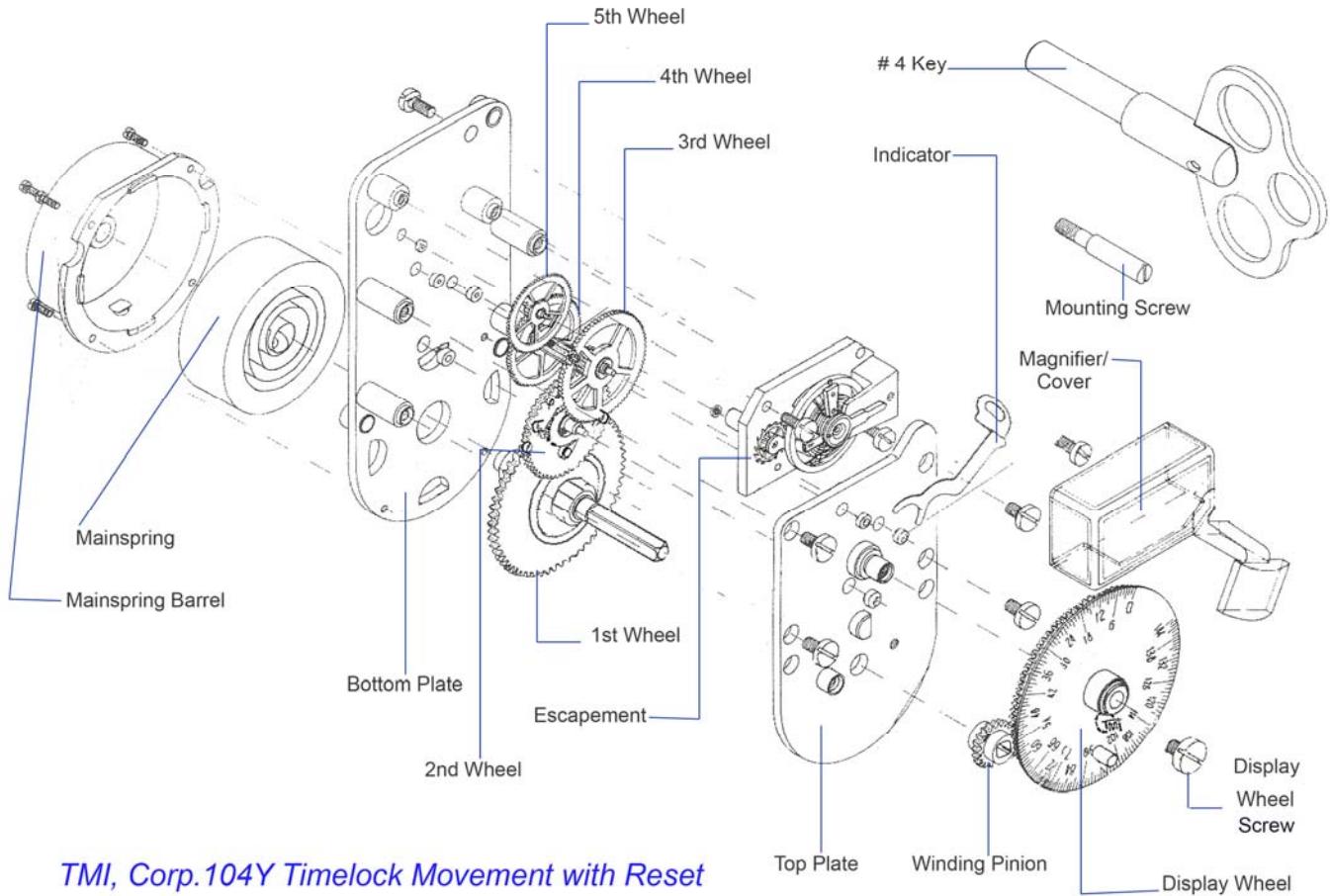
### Diebold 104D Non-Reset Timelock Movement- LH



Right-Hand Top Plate Components



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**Parts Ordering Information:** Parts used to manufacture 104Y movements are similar to those used in Diebold, Yale and Le Febure 120 hour movements. Always specify the manufacturer's name and whether the movement is reset or non-reset. 104Y movements use 14400 beat escapements. Typically, 120 hour movements use 18000 beat escapements. Mainsprings are supplied in the barrel. 104 series movements are available in both RH and LH for both Yale and Diebold interchange. Handing is determined with the display wheel at rest and the position of the pointer (Indicator). At rest, RH movements will have the "0" hour mark to the right of the indicator and LH will be to the left of the Indicator. A detail drawing of the differences between RH and LH is shown in the Diebold 120 hour movement drawing. The included parts list is indicative of current stock items and is subject to change without notice. Call for current pricing and availability.

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**Timelock Parts:** The parts listed below are representative of the parts currently in stock and available for sale under normal policies of TMI, Corp.. Availability of parts is subject to change without notice and parts may become obsolete at any time. As stated previously, there are many parts that interchange from movement to movement and we have done our best to clarify such in the "Item Description" portion of this list. Please be clear and concise as to the part you need at time of ordering as parts cannot be returned for credit.

Item ID	Item Description	Cost
<b>TMI/STB/Diebold</b>		
104D-1	GREAT WHEEL-120 HR DIEBOLD	\$ 39.90
104D-12	DISPLAY WHEEL-120 HR DIEBOLD	\$ 36.75
104D-12R	RH DISPLAY WHEEL-120 HR DIEBOLD	\$ 36.75
104D-16	MAINSPRING W/ BARREL DIEBOLD	\$ 36.75
104D-2	2ND WHEEL-120 HR DIEBOLD, LeFEBURE, YALE	\$ 33.60
104D-7	ESCAPEMENT 120 HR DIEBOLD, LeFEBURE, YALE	\$ 95.00
104D-TP	104D SERIES TOP PLATE DIEBOLD	\$ 42.00
104K-10	104K TOP PLATE	\$ 29.40
104K-12	104K DISPLAY WHEEL	\$ 36.75
104Y-10	104Y TOP PLATE	\$ 33.60
104Y-11	LH WINDING PINION- DIEBOLD, LeFEBURE, TMI, YALE	\$ 7.35
104Y-11R	RH WINDING PINION - DIEBOLD, TMI, YALE	\$ 7.35
104Y-11RB	RH INTERMEDIATE GEAR - DIEBOLD, TMI, YALE	\$ 5.25
104Y-12	104Y/L DISPLAY WHEEL-144 HR	\$ 33.60
104Y-12R	104Y RH DISPLAY WHEEL 144 HR	\$ 33.60
104Y-1B	STB 1ST WHEEL W/CLUTCH 104Y/K/L 127R	\$ 33.60
104Y-2	104Y 2ND WHEEL (PAIRS W/104Y-3)	\$ 29.40
104Y-2B	104Y 2ND WHEEL (PAIRS W/104Y-1B)	\$ 29.40
104Y-3	104Y 3RD WHEEL CLUTCH (PAIRS W/104Y-2)	\$ 29.40
104Y-3B	3RD WHEEL 120 / 144 / 168 HR STB	\$ 29.40
104Y-4	4TH WHEEL 120 / 144 / 168 HR STB	\$ 29.40
104Y-5	5TH WHEEL GEAR 120 / 144 / 168 HR STB	\$ 26.25
104Y-7	ESCAPEMENT 144 HR & 168 HR TMI	\$ 94.50
104Y-8	104Y ESCAPEMENT COVER	\$ 3.15
104Y-9	INDICATOR (POINTER) DIEBOLD, TMI	\$ 3.15
106-2	MOSLER 2ND WHEEL - 106	\$ 35.80
106-3	MOSLER 3RD WHEEL - 106	\$ 36.40
106-4	MOSLER 4TH WHEEL - 106	\$ 45.00
114M-7	114M ESCAPEMENT LeFEBURE, LaGARD	\$ 78.75
114M-8	114M ESCAPEMENT COVER LeFEBURE, LaGARD	\$ 5.25
126R-D1	126R DISPLAY WHEEL ASSEMBLY	\$ 35.00
127MS	DIEBOLD TLM MOUNTING SCREW CURRENT 6 X 32	\$ 6.00
127R-12	127R DISPLAY WHEEL 168 HR	\$ 35.00
127R-12B	127R DISPLAY WHEEL 144 HR	\$ 35.00
127R-RH13	127R RIGHT-HAND DISPLAY WHEEL 144 HR	\$ 35.00

## **TMI Guide to Timelock Movements**

Item ID	Item Description	Cost
<b>STB 114E/134W</b>		
134-1	114E/134W 1ST WHEEL	\$ 28.00
134-15	114E/134W COMMAND WHEEL	\$ 25.00
134-16	114E/134W TOP MECHANISM PLATE	\$ 40.00
134-18	114E/134W STEP-MOTOR AND COIL ASSEMBLY	\$ 30.00
134-2	114E/134W 2ND WHEEL	\$ 28.00
134-3	114E/134W 3RD WHEEL	\$ 28.00
134-4	114E/134W 4TH WHEEL	\$ 28.00
134-6	114E/134W CAM	\$ 22.00
134-8	114E/134W SHROUD	\$ 5.00
BAT	BATTERY 114E-134W	\$ 5.00
BATCAP	BATTERY CAP	\$ 3.00

<b>Relhor/Ilico/S&amp;G</b>		
AR15	RELHOR ESCAPEMENT COVER	\$ 5.00
AR165TOP	RELHOR TOP PLATE 165-2	\$ 35.00
ARDW1	RELHOR DISPLAY WHEEL RESET 152-1	\$ 35.00
ARDWS	RELHOR DISPLAY WHEEL SNAP ACTION 152-2	\$ 35.00
ARESC	RELHOR ESCAPEMENT	\$ 90.00
ARMSB	RELHOR MAINSPRING & BARREL	\$ 32.00
ARWH1	RELHOR 1ST WHEEL WINDING ARBOR 152-1, 152-2, 165-2	\$ 32.00
ARWH1N	RELHOR GREAT WHEEL-NONRESET 152-0	\$ 28.00
ARWH2	RELHOR 2ND WHEEL 152-1, 152-2, 165-2	\$ 32.00
ARWH2N	RELHOR 2ND WHEEL-NONRESET 152-0	\$ 32.00
ARWH3	*USE SOWH3-B*	
ARWH5	RELHOR 5TH WHEEL 152-0, 152-1, 152-2	\$ 25.00
ARWH5S	RELHOR 5TH WHEEL-165-2	\$ 35.00

<b>S&amp;G</b>		
SG6253-020-002	LENS FOR 6370 CASE	\$ 19.45
SG6270-003-502	CARRIER ASSY	\$ 57.45
SODW1	SONCEBOZ DISPLAY WHEEL 624-1	\$ 36.75
SODW2	SONCEBOZ DISPLAY WHEEL SNAP ACTION 624-2	\$ 47.25
SOESC	SONCEBOZ ESCAPEMENT-S12-AYA	\$ 90.00
SOLENS	SONCEBOZ ESCAPEMENT COVER	\$ 8.40
SOMSB	SONCEBOZ MAINSPRING & BARREL	\$ 33.60
SOTOP	SONCEBOZ TOP PLATE	\$ 36.75
SOWH1-B	SONCEBOZ GREAT WHEEL/1ST WHEEL	\$ 31.50
SOWH2-B	SONCEBOZ 2ND WHEEL	\$ 33.60
SOWH3-B	SONCEBOZ / RELHOR 3RD WHEEL CLUTCH (ARWH3)	\$ 29.40
SOWH4	SONCEBOZ 4TH WHEEL	\$ 29.40
SOWH5	SONCEBOZ 5TH WHEEL	\$ 29.40
SOWP	SONCEBOZ WINDING PINION	\$ 10.85

## **TMI Guide to Timelock Movements**

### **Directions for Locking 16000 Series Timelocks**

Introduction: TMI Series 16000 timelocks are designed to provide the ultimate in protection, with combined ease of operation and durability. Our timelock utilizes three-movements to provide "**redundant safety.**" It only requires one movement to unlock your new timelock. In the event that one movement fails, the timelock will still operate correctly, opening at the exact, pre-set time. **Never Lock Your Timelock with only one (1) movement functioning.** If you have any doubt as to the functionality of your timelock, contact the installing company or manufacturer of your equipment prior to locking the door.

#### **Locking Procedure - Mechanical Movements:**

1. Determine the number of desired locking hours. Example: the time of locking is 5PM and the desired unlocking time is 7AM the following day. This equals 14 hours of locking time.
2. Using the supplied winding key, wind each movement for the predetermined locking hours. A "pointer" which reflects the movement's locking hours is usually located at the 1:30 position, to the right of the display wheel. **NOTE: Each movement in the 16000 series timelock must be wound before any attempt is made to lock the timelock.**
3. Depress the actuator lever, located in the bottom center of the front cover. Considerable resistance will be noted. This is a normal condition and part of the locking function.
4. Ascertain that all movements are fully functional, by observing the action of the balance wheels. If there are not at least two (2) functional movements, move the Release lever laterally until the actuator releases and is in the fully unlocked condition. The Release Lever is located below the far, right-hand timelock movement winding arbor. Contact a qualified service company immediately. Do not re-lock your timelock until a complete inspection/repair can be accomplished.
5. If all movements (or at least two) are functioning correctly, close the door and fully extend the locking bolts. Throw-off both combinations, by rotating each dial at least four (4) times. If the vault locks are controlled by your timelock, attempt to dial each one open. Minimal lock bolt retraction will be noted, far short of allowing the combination lock to fully unlock. If the timelock controls the function of the locking bolts, attempt to retract the bolt work with the bolt control handle. Minimal retraction should be noted, far short of fully unlocked. In either test, be certain to fully extend and re-lock either the bolt work or the combination lock bolt on each lock. **NOTE: If you were able to open your container, repeat steps 1-5. If the secured container still fails to lock, contact a qualified service technician for immediate repair.**

#### **Locking Procedures for Time Only Electronic Movements:**

Electronic series 114E movements are dealt with in the same manner as mechanical movements. Follow steps 1-5 as outlined. There are several considerations however that you should note. Non-reset 114E movements must have their locking time installed within a one (1) minute window. During this one-minute window, you may set and reset the selected locking hours. If you fail to set the desired locking hours within the one-minute window, whatever time you did set is not capable of reset. To reset the time back to "0" hour, remove the front cover. Remove the button-cell hatch cover, located below and to the left of the LCD display. Remove the battery for at least 30 seconds. Reinstall the battery and button cell hatch cover. Removal and reinstallation of the hatch cover is accomplished with the head portion of your winding key. This cover has a slot that was designed specifically to fit a radius end of the winding key head. After reinstallation of the button cell and hatch cover, wind the movement counterclockwise to arm the movement. Install the desired locking hours. Reinstall the front cover and continue installing time on the remaining movements. 114E Electronic movements can be set in 15 minute increments only. Always try to set your timelock on the hour or half-hour. A reset version of these movements is available, allowing you to reset time up and until the moment you close and lock the secured container. Ask your service technician which version is installed in your container. NOTE: Electronic movements are designed to fail safe. This means that if battery power is inadequate, the movement will fail to arm and instantly release. A universal battery symbol will appear in the lower right-hand corner of the LCD display indicating that there is inadequate power for locking. Unless you have been trained in how to change these power cells, contact a qualified service technician. Annual inspection and replacement of all button cells is recommended.

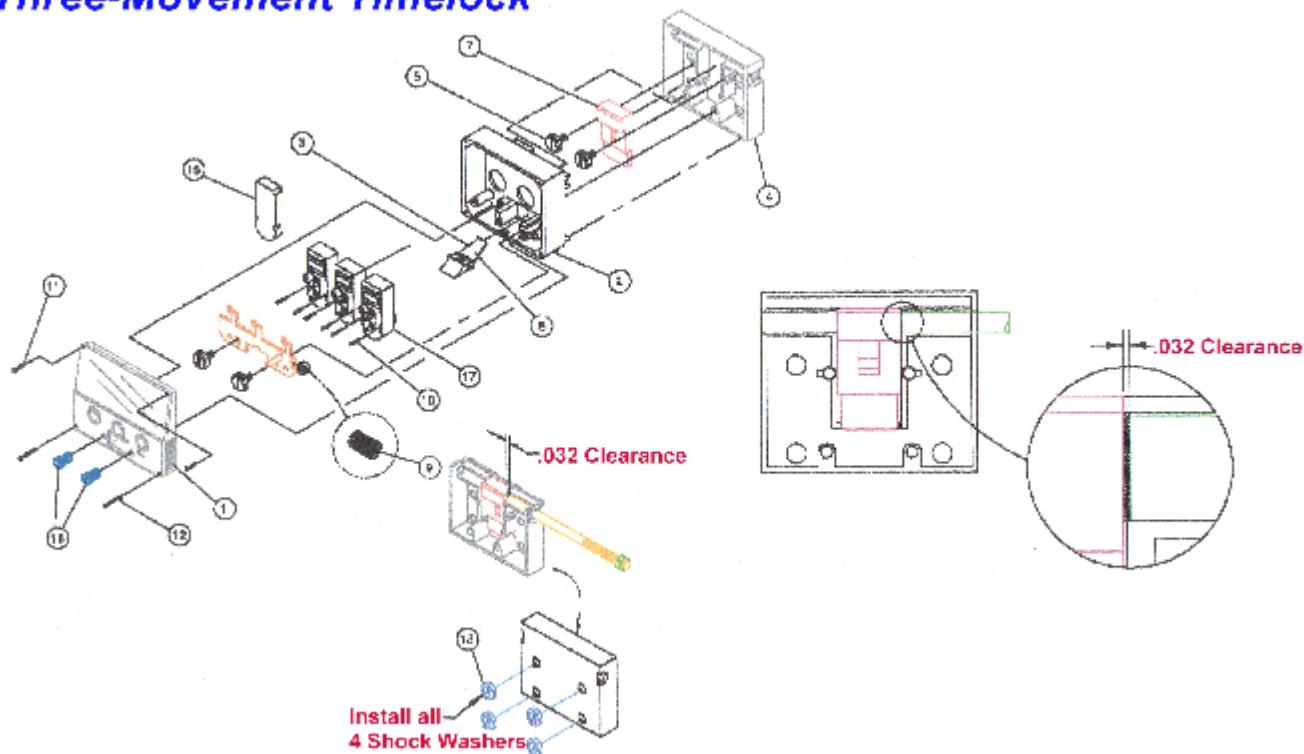
### Locking Procedures for Weekly Programmable Movements:

Weekly programmable movements are pre-set to specific opening times for a week at a time. The program is redundant and repeats until changed. In function, all that is required is daily arming of each movement. To arm a movement (prepare for locking), attach and rotate the winding key counterclockwise until a definable slippage and relaxing of tension on the winding key is noted. The LCD display will indicate the next-open time. If the movement releases as soon as it is armed, the battery requires replacement or there is another problem with the movement. In either case, contact qualified service personnel. If your timelock was provided with Model 134W, Weekly-Programmable Movements, additional instructions were provided. These instructions illustrate setting weekly programs and other special features not covered in this general discussion. **If you are not certain that your timelock is fully functional, do not close or lock the secured container.**

### Warranty:

TMI, Corp. warrants each timelock housing for a period of one (1) year from the date of purchase to the original purchaser only. Warranty coverage is determined by the invoice date. Any component that fails during this time period will be repaired or replaced at the sole discretion of TMI. Except as noted herein, there is no other warranty expressed or implied. Suitability for use, consequential damages that arise from the use of our products are the responsibility of the purchaser and will not be borne by TMI, Corp. Abuse, misuse, acts of God, war or nature are excluded from warranty coverage. Our products require professional installation. When in doubt, we urge you to ask questions and seek professional service personnel.

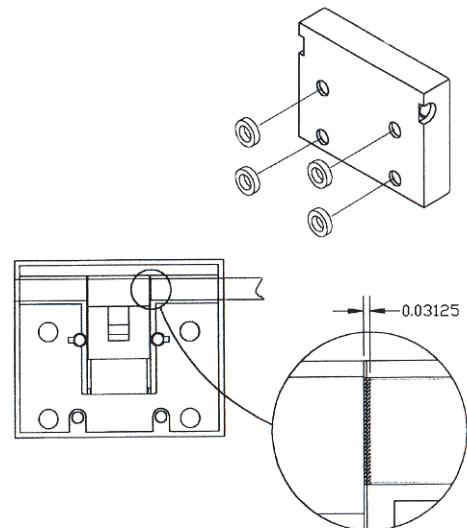
### TMI Model 16000 Three-Movement Timelock



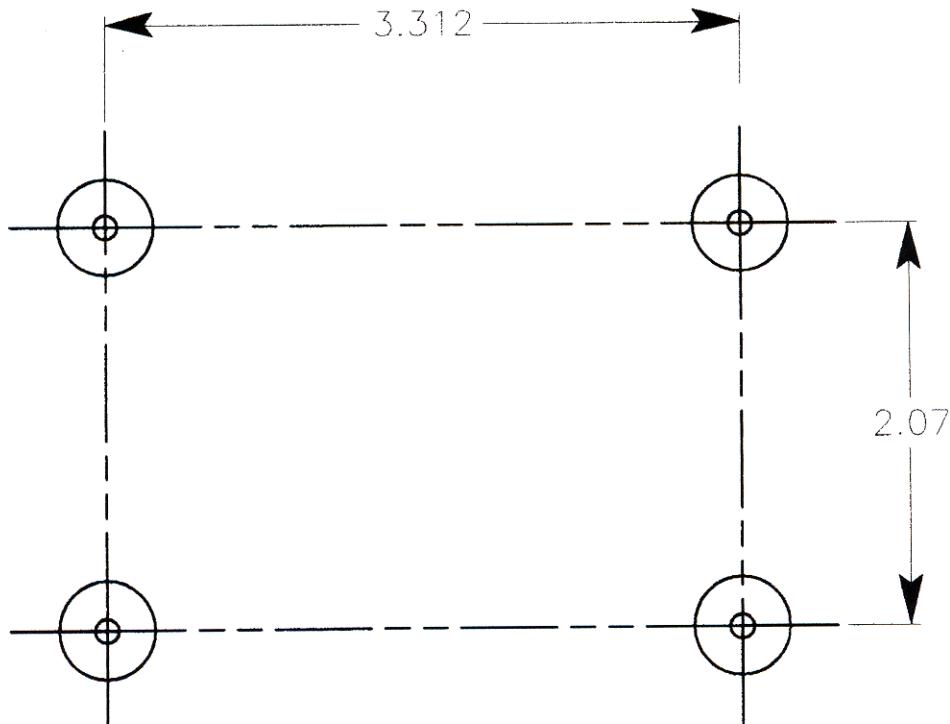
## ***TMI Guide to Timelock Movements***

### **Installation Notes:**

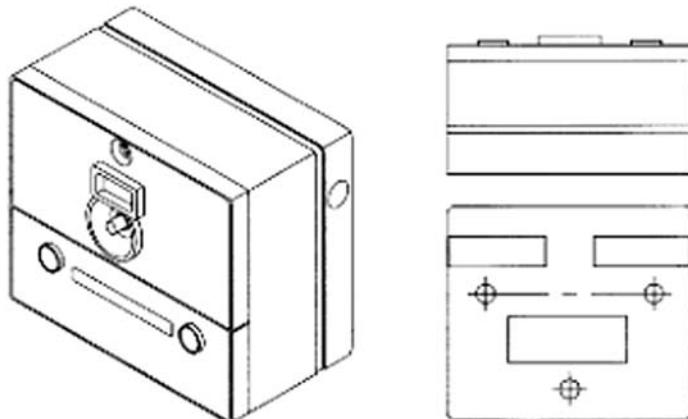
1. Install all four (4) shock washers as illustrated. The washers are made from neoprene and designed to absorb transitional shock, preventing damage to the movements.
2. A gap of 0.03125 must exist between the Snubber and Snubber bar in the fully locked condition. With the door open, extend and lock the bolt work, followed by raising the Snubber slide to the fully locked position.
3. 3/8" X 16 X 3/4" Button Head Bolts are supplied for installing the base plate. Minor alignment abnormalities between the Snubber bar and base plate are corrected by loosening these bolts and manipulating the base plate in the desired direction.
4. Final calibration for "0" hour opening was done at the factory. The installer is responsible to verify that the timelock will open at "0" hour and that all components function smoothly. **CHECK FUNCTIONALITY WITH THE DOOR OPEN.**



### **Actual Size Base Plate Installation Template**



**Locking 2400 Series Timelocks with Mechanical Movements:**



1. Determine how many hours the chest or vault is to remain locked.
2. Wind each movement counterclockwise until the indicator (pointer) of each movement is directly aligned with the predetermined locking hour.
3. Depress the locking plunger button, located between the two timelock movements. Timelocks supplied with a guard cover require the use of the winding key to depress the locking plunger. The winding key is also used to activate the emergency release lever.

The locking plunger button should remain depressed, indicating that the timelock is prepared to lock the chest or vault door once the bolt work and or combination lock (s) are thrown off. **Never lock a chest or vault with only one functional movement. Note: the first movement to reach "0" hour unlocks the timelock.** The "Emergency Release Lever" is located above the locking plunger button.

**Preparation for Locking Timelocks with Electronic Movements:**

1. Series 114E movements are time only and are set in the same manner as mechanical movements.
2. Series 134 movements are redundant, weekly programmable. Follow the outlined procedures supplied with this timelock.
3. Depress the locking plunger button, located between the two timelock movements. Timelocks supplied with a guard cover require the use of the winding key to depress the locking plunger. The winding key is also used to activate the emergency release lever.

**Never lock a chest or vault with only one functional movement. Note: the first movement to reach "0" hour unlocks the timelock.**

### **General Information:**

TMI electronic and mechanical timelock movements are precision instruments which are highly accurate and dependable when given minimal care. The following are guidelines which will ensure years of trouble-free service.

1. Model 134 and 114 electronic timelock movements are designed for use in industry accepted (U.L. listed) timelock cases which utilize the original Yale screw mounting pattern. Installation in any container other than an accepted timelock case exposes these movements to potential damage, may cause a lock-out of the secured container and voids the warranty.
2. Operating temperature ranges are 0° - 30° Celsius (32° - 86° Fahrenheit.) Relative humidity should not exceed 50%.
3. Duracell button cells are the recommended replacement battery for STB model 134 and 114 electronic timelock movements. Varta button cells may be substituted when Duracell is not readily available. No other brand or type cell should be used. Battery life is dependent on the frequency of use, temperature and the overall condition of the timelock movement. Though a fresh cell can render 2 years of satisfactory service, the prudent approach is to replace all batteries annually.
4. Except for replacing the power cell, there are no end-user serviceable components. Mechanical movements contain no end-user serviceable parts.

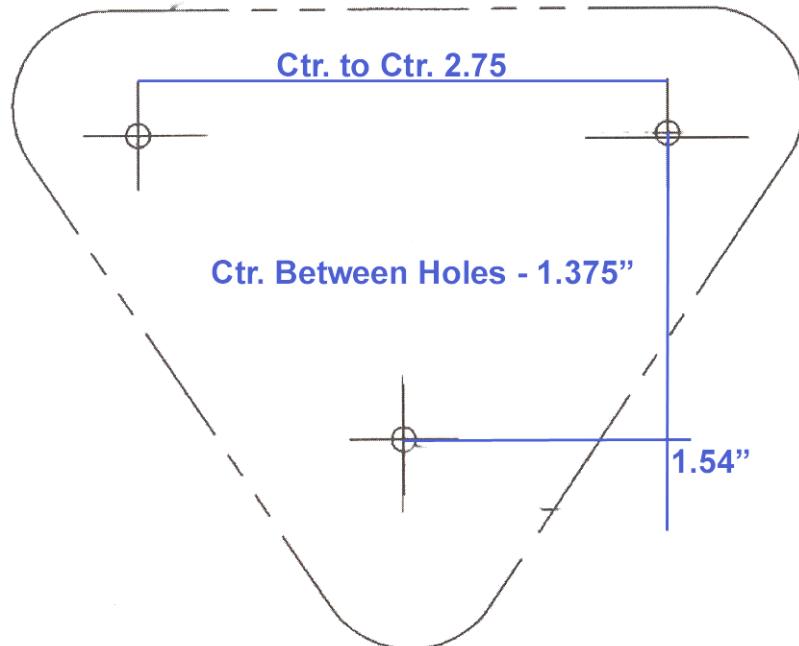
### **Warranty:**

TMI model 134 & 114 electronic timelock movements and model 104 & 114 series mechanical timelock movements are warranted for one year to be free from manufacturing defect. Any movement which proves to be defective during this time period should be returned to the place of purchase, freight paid, with a complete explanation of the failure. At the option of the manufacturer, the movement will be repaired or replaced at no cost to the original purchaser. Customer abuse, neglect, unauthorized modifications, service, repairs, acts of war, acts of nature are not covered by this warranty. Consequential damages which may arise through the use or misuse of these products shall not be borne by the manufacturer or their agents. Except as noted herein, there is no other warranty expressed or implied. The manufacturer reserves the right to amend, alter, extend or deny warranty coverage at their option without prior notification.

### **Questions & Programming Problems:**

When questions or programming problems exist, contact your local sales company, retail dealer, distributor, or the safe manufacturer.

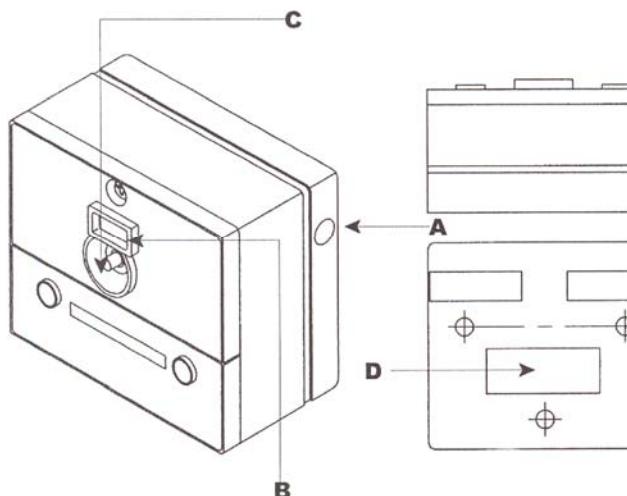
**Not Actual Size – Reference Only**



## Installation

## Notes:

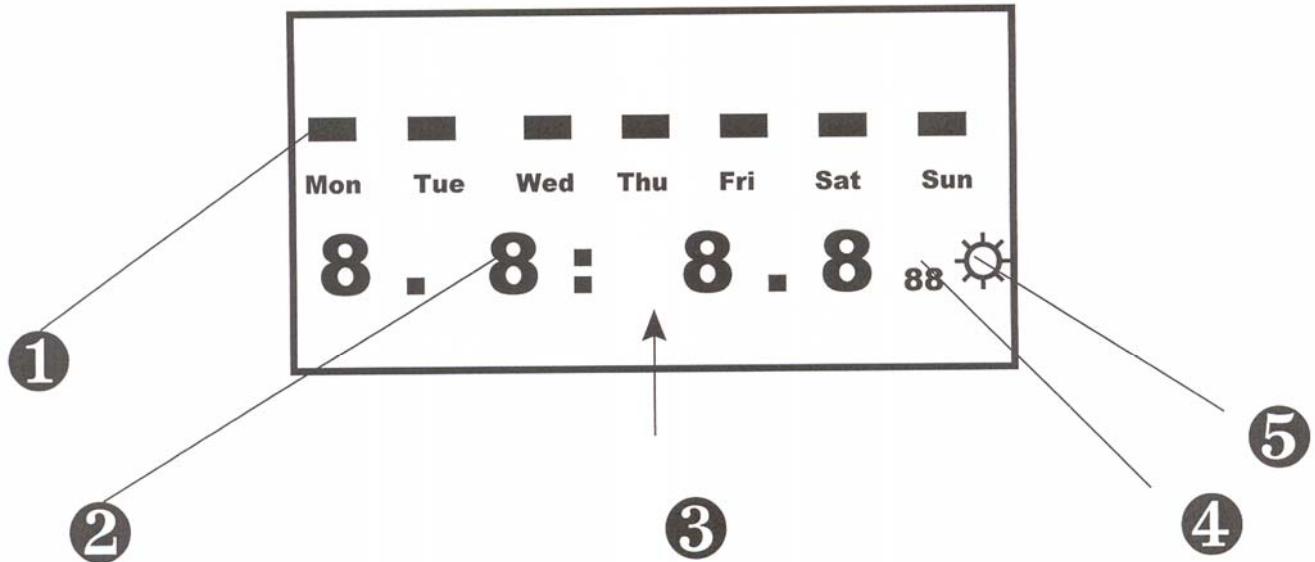
1. Noted measurements will locate exact centers for either 5/16 or 1/4 mounting bolts
2. Install all 3 shock washers under the base.
3. Snubber Bar diameter should not exceed .400
4. Allow .032 clearance between the Snubber Bar and the blocking lever, measured with the bolt work fully extended and the door locked-open.
5. **Test for proper function at least 3 times before actual locking.**



- A. Snubber-Bar Slide (Aperture)
- B. Release Lever
- C. Actuator
- D. Base Plate

**Programming 114E & 134W Movements:**

**Figure A**



**Figure 1:** Each day of the week has a cursor line above it. The LCD display shown above is the “power-up” screen seen on both 114E and 134W Electronic timelock movements. After the first time you wind either of these movements, the cursor line will only appear above the day of the next scheduled opening.

**Figure 2:** The first 2 numerals occupy the space for hours.

**Figure 3:** The arrow points at the LCD (Liquid-Crystal Display) assembly, followed by two digits that represent actual minutes.

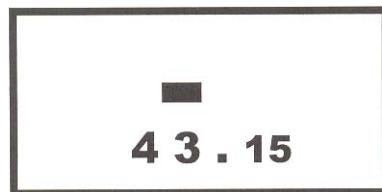
**Figure 4:** The smaller numerals indicated by Figure 4 are the second's markers.

**Figure 5:** The actual symbol that appears here is shaped to represent a typical battery. This is your low battery alert symbol. This symbol appears on initial power-up and whenever the processor senses that adequate current/voltage is not present to operate your movement reliably.

**Note:** The screen shown above will only appear this way when a new power cell is installed and changes to a normal operating screen as soon as the movement is wound for the first time.

## **TMI Guide to Timelock Movements**

**Figure B**

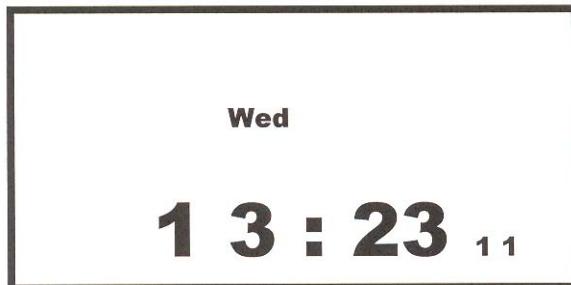


Model 114E

movements are

“time-only,” which means that they operate in much the same way as a mechanical movement. The display above shows a time setting of 43 hours and 15 minutes. All versions of the 114E can be advanced in 15 minute increments only. All 114E movements feature instant open, which means that the unlocking pin does not release the lock until exact “0” hour. Standard versions of the 114E series can be set for a maximum locking time of 199 hours. A special version is available that can be set for maximum locking time of 999 hours. 114E series movements are available as reset or non-reset. Non-reset movements can not have their locking time altered after 1 minute.

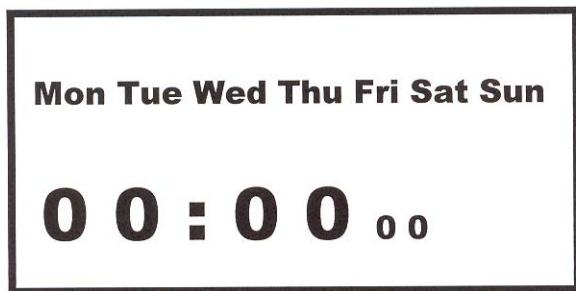
**Figure C**



The display shows that 1:23 PM has been set as “Real-Time” and that the day of the week is Wednesday. Immediately after the power-up display, model 134W movements will prompt you to install the day of the week and the exact time of day in “military” format. The first time you wind the movement after installing a new power cell, “Mon” will begin to blink. If Mon is not the day of the week, rotate the winding key very slowly clockwise until the actual day of the week is blinking. Stop on the correct day and wait several seconds and you will see the hour start flashing and the day of the week will remain solid. Advance the winding key clockwise to increase, counterclockwise to back-up and reduce the set hour. When you reach the correct hour, pause several seconds until the minute numerals begin to flash. Advance the minute numerals in the same manner as the hour numerals. When you reach the exact minute, stop all winding key motion and carefully remove the winding key from the winding arbor. The entire display will flash several seconds, followed by the unlocking or release of the unlocking pin back to its neutral point. The display will appear similar to the one above. Only the colon will flash while the seconds advance in a normal manner.

## **TMI Guide to Timelock Movements**

**Figure D**



### **Setting the Unlocking/Opening Times for Each Day:**

After installing “Real-Time” your timelock movement will unwind and the display will look similar to figure C. The next step is to program in an opening time for each day you want the timelock to unlock. For example, your normal time each day to access your safe or vault is 8:15AM. On Saturday, you do not open the safe or vault until 10:00AM and you are closed on Sunday. Start by rotating the winding key counterclockwise until you no longer feel any resistance on the winding key. Immediately, “Mon” will flash. Let the day of the week flash until the hour numerals begin to flash. Once the hour numerals begin to flash, advance the winding key clockwise until “08” appears. If you over-shoot your target hour, reverse key rotation. When you are satisfied with the hour, stop rotating the winding key. Within several seconds, the minute numerals will begin to flash. Set the minutes in the same manner you set the hours. When you are satisfied that the minutes are set correctly, stop rotating the winding key. Within several seconds, “Tue” will begin to flash. Repeat the same process for “Tue” that you did for “Mon.” If your schedule includes a day off either on Sunday or any other day of the week, simply take no action when that day, hour and minute flashes. For each scheduled opening day and time a solid cursor will show above that day, indicating that day has a program in place. Refer to Figure 1. When all the days of the week are programmed, a verifying program takes effect automatically. The entire program sequence will step through each day of the week allowing you to verify the accuracy of your programmed opening days and times. If the days and times are correct, take no action, allowing the verifying program to run its course. At the end of the verification program, the movement will unlock, releasing the movement’s unlocking pin back to the neutral, unlocked position.

### **Locking your Timelock:**

Each business has a set schedule for when they close and lock their safe, chest or vault. Whatever your schedule is will not affect your new timelock movements. Both model 134W and 114E movements can be locked at any time you choose. For model 134W movements, rotate the winding key counterclockwise until almost no resistance is noted. Repeat this process for each movement in the case. Depress the locking button or actuator and ascertain that the trigger (cam or carrying bar) has slid to the fully locked position. Verify that all movements within the case are armed and displaying the next day’s opening time. Close and lock your vault door in the usual manner. If during the preparation of your timelock you noticed a movement that failed to arm correctly, contact your local service company for assistance. In extreme emergencies, you may remove the defective movement from the case, reassemble the timelock and test it for function prior to locking your safe or vault for the night. **Note: this can only be done on timelocks that utilize 3 movements. Timelocks that use only two movements must be repaired prior to locking. Never lock your safe, chest or vault door with only one (1) movement operating correctly.**

### Pr 1

**Program 1:** This feature is commonly referred to as "Extra-Close/Short-Close." Occasions will arise where it will be desirable to close and lock your safe, vault or chest for a short period of time during the day. This feature allows you to add an additional opening time to your existing program without disturbing your existing programming. Example: The current time is 1:00PM (13:00 military time). You decide to lock your safe until 4:30PM (16:30 military time). Insert and rotate the winding key counterclockwise until no resistance is felt. Wait 5 seconds and begin rotating the winding key clockwise until the LCD displays "Pr 1". Stop rotating the winding key. When the hour numerals begin to flash, install the next opening hour, which in our example is 16. After installing the hour, wait for the minute numerals to begin flashing. Install the actual minutes of the next opening, which in our example is 30. After you stop rotating the winding key the entire display will flash several times, cease flashing and the unlocking pin will remain in the fully locked position. Prepare all remaining movements in the same manner. Your timelock will now open at 16:30 (4:30PM). This is a one-time program which will not repeat.

### Pr 2

**Program 2:** "Skip A Day" - this feature allows you to cancel a scheduled opening. Example: Monday is a holiday and you want your safe, vault or chest to remain locked rather than open as scheduled Monday morning. Insert and rotate the winding key counterclockwise until no resistance is noted. Wait 5 seconds and begin rotating the winding key clockwise until "PR 1" appears. Continue rotating clockwise, stopping when "PR 2" appears in the display. Each day of the week that

has a scheduled opening time will appear. The cursor will flash above each day individually. When the cursor flashes over the day you wish to cancel, rotate the winding key clockwise until the cursor over that day disappears. You may cancel 6 out of 7 opening times. After the cursor over the day you chose disappears, stop rotating the winding key. After the program steps through the remainder of the days, the movement will release to the fully unlocked position.

### Pr 3

**Program 3:** "Daylight Savings Time" - this feature allows you to adjust "Real-Time" for seasonal changes. Insert and rotate the winding key counterclockwise until no resistance is noted. Wait 5 seconds and begin rotating the winding key clockwise. Scroll through "PR 1 & PR 2" stopping when "PR 3" appears on the display. The hour numerals will begin to flash. Adjust the hour reading up or down by one hour. Shortly after you stop rotating the winding key, the minute numerals will flash. Adjust the minute reading in the usual manner. After you stop rotating the winding key, the display will begin to flash and release the movement to the fully unlocked position.